

Notice of Allowability	Application No.	Applicant(s)	
	09/935,166	ZHANG, JIAN	
	Examiner	Art Unit	
	Dipakkumar Gandhi	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/7/2005.
2. ☒ The allowed claim(s) is/are 1,2,5-9,19-24,26,27 and 37, which are renumbered as 1-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>9/21/2005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNICAL CENTER 2100

[Signature]

AT

Allowable Subject Matter

1. The amendment filed on 7/7/2005 has been entered.
2. Claims 1-2, 5-9, 19-24, 26-27, 37 are allowed.
3. Claims 3-4, 10-18, 25, 28-36 are canceled.
4. The following is an examiner's statement of reasons for allowance: The present invention pertains to burst error-correction codes and more particularly to a software implementation of a Reed-Solomon (RS) code that places a constant load on the processor of a computer. The claimed invention (claim 1 as representative, claim 1 is broader than all the other independent claims) recites features such as: "...a processor circuit operable to store a portion of a Reed-Solomon code word, the portion being less than the entire first code word, store a portion of a second Reed-Solomon code word, the portion being less than the entire second code word, and while storing the portion of the second code word, decoding the portion of the first code word and no other portion of the first code word."

The prior arts of record teach the RAM module shown in FIG. 4 consisting of three RAM segments. Each RAM segment can store more than one codeword. The RAM memory 30 is accessed by two modules in the decoding means 40 during decoding, namely the syndrome generator module 42 at the beginning end of the pipelined decoding means 40, and the error computation and correction module 48 at the finishing end. It is also accessed by the input module 24 and the output module 26 which provide the necessary interface with the host processor (col. 5, lines 23-34, Lahmeyer US 4,649,541 is an example of such prior arts).

Deodhar teach dividing the Reed-Solomon decoding process into a sequence of well-defined steps implemented by a plurality of processors operating in a pipelined manner (abstract, Deodhar, US 4,567,594).

The prior arts, however, can only perform decoding operations after receiving entire code words. The prior arts do not teach dividing a Reed-Solomon code word into portions and decode each of these portions independently of other portions and with less than the entire code word. The prior arts do not teach a processor circuit operable to store a portion of a Reed-Solomon code word, the portion being less than the entire first code word, store a portion of a second Reed-Solomon code word, the portion being

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less than the entire second code word, and while storing the portion of the second code word, decoding the portion of the first code word and no other portion of the first code word. Hence, the prior arts of record do not anticipate nor render obvious the claimed inventions. Thus, claims 1-2, 5-9, 19-24, 26-27, 37 are allowable over the prior arts of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's attorney Bryan A. Santarelli on 9/21/2005.

The application has been amended as follows: claims 10, 11, 13, 14, 15, 28, 31, 32, 33 are cancelled.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dipakkumar Gandhi whose telephone number is 571-272-3822. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dipakkumar Gandhi
Patent Examiner


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